

Specimens examined.—ARIZONA, Santa Cruz valley near Tucson (*C. G. Pringle*, May 19, 1881); springs in Huachuca mountains (*J. G. Lemmon* 3, August, 1882): MEXICO, chiefly in the region of San Luis Potosi (*J. G. Schaffner* 1, 1876; also *C. C. Parry* and *Edward Palmer* 287, 1878): CHILI, southern part of Province Concepcion (*R. A. Philippi*).

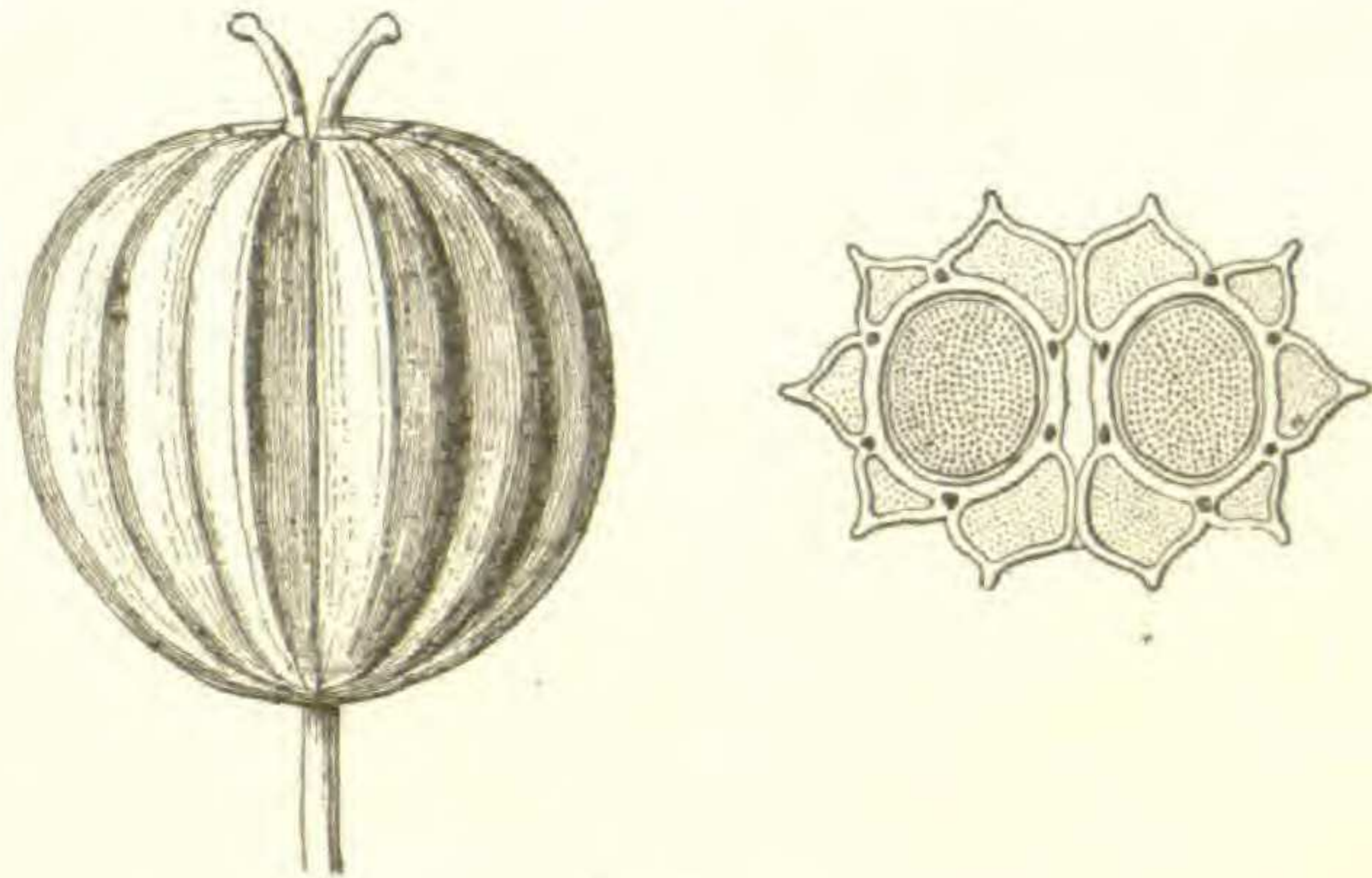


FIG. 4.

Fruit and fruit section of *L. Schaffneriana*.

The forms from the Australian region and from Brazil, which have been referred to *Crantzia lineata*, are probably two distinct species different from those described above. From the imperfect material examined and the meager descriptions it is evident, at least, that they cannot be *Lilæopsis lineata*.—JOHN M. COULTER, *University of Chicago*, and J. N. ROSE, *Washington, D. C.*

A NEGLECTED NORTH AMERICAN EUPHORBIA.

(WITH PLATE III)

It is with considerable hesitation that the writer ventures to describe another species in this large and complicated genus, the specific limitations in which, so far as our American representatives are concerned, are so very imperfectly understood. The particular form in question, however, stands out so sharply from its near relatives that one seems entirely justified in treating it as a distinct species. The plant was noticed several years ago growing upon dry waste soil about Ithaca, N. Y. Not far distant were specimens of both *E. maculata* and *E. nutans*, from which it differed so greatly in appearance that a more careful study was made of it during each succeeding summer, the final result being that other characters were found to support this difference in general appearance, which are noted in the following description.

The history of the American species of the section ANISOPHYLLUM has been very much involved since the earliest times, principally because the early botanists did not understand the value of the fruit and seed characters used so much at present. The types of the older species are therefore exceptionally vague.

In 1753 Linnaeus¹ described under the name *E. maculata* the plant that goes under that name at present. The characters, "leaves pilose, spotted, calyx red," indicate this, as do also the comparisons made with the type material under the direction of Dr. Torrey.² Linnaeus, however, in the second edition of *Species Plantarum*, and in his subsequent works, confuses our new form with *E. maculata*, "dichotomous, branches patulate, leaves serrate, flowers axillary and solitary, fruit smooth." Willdenow's³ *E. maculata* is for the most part *E. hirsuta* (fruit smooth, etc.), but "calyx red," on the other hand, refers rather to the *E. maculata* of *Sp. Pl.* ed. 1. Pursh⁴ describes *E. maculata* as "erect-patulate, pilose, involucre of the florets white," which evidently refers to *E. hirsuta*. The name *maculata* is correctly applied by Torrey, Bigelow, Darlington, and Barton. *E. hirsuta* was first recognized and described by Torrey⁵ as *E. hypericifolia* var. *hirsuta*, but for some reason since that time it has been entirely overlooked.

The *E. hypericifolia* of Linnaeus is very indefinite. Linnaeus gives its habitat as India, which Willdenow further modifies to West India. Many of the American authors have considered the United States form as identical with the Linnaean plant. Boissier and others hold that the West Indian form is entirely distinct from the northern plant called by Boissier⁶ *E. Preslii* Guss., but should go under the older name *E. nutans* Lag. *E. thymifolia* was a name applied by Linnaeus to a probable Indian species, but later applied by Willdenow, Michaux, and Pursh to some one of the procumbent hairy species of the western states.

According to the present rules of priority, the form in question must receive Torrey's name and become *E. hirsuta* (Torrey). Our plant is found in most herbaria, named either *E. Preslii*, which it resembles in its fruit, or *E. maculata* and *E. humistrata*, which it resembles somewhat in general appearance.

The writer is indebted to Mr. Coville and Dr. Small for the use of additional material, thus making it possible to draw up the following detailed account of the species.

***Euphorbia hirsuta* (Torrey).**

E. maculata L. *Sp. Pl.* ed. 2, 1762 (in part); Willd. *Sp. Pl.* 1799 (in part); Pursh *Fl. Am.* sept. 1814.

E. hypericifolia var. *hirsuta* Torr. *Fl. North. and Middle States* 331. 1826.

¹ *Sp. Pl.* ed. 1. 455. 1753.

² *Fl. N. Y. State* 2: 176. 1843.

³ *Sp. Pl.* ed. 2. 896. 1799.

⁴ *Fl. Amer.* sept. 2: 605. 1814.

⁵ *Fl. North. and Mid. States* 331. 1826.

⁶ *DC. Prod.* 15: 23. 1865.

Decumbent, forming large mats: stems 10–25^{cm} long, dichotomously much branched, slender, zigzag, commonly rufescent on the upper side, more or less hirsute; leaves ovate-oblong (8–15^{mm} long), oblique at base, acutish, slightly sulcate, sharply serrulate nearly to the base, palmately 3–5-nerved, light-green above, somewhat paler beneath, clothed with scattered hairs; petioles slender, about 1^{mm} long; stipules inconspicuous, subulate, fimbriate: flowers clustered near the ends of the branches, peduncles longer than the petioles (1.5^{mm} long), slender: involucre funnelform (1^{mm} high), glabrous; glands cupulate, circular, dark-brown, on rather long pedicels; appendages small, only slightly exceeding the glands, crenate, white; involucral teeth equaling the gland, laciniae few; crests in the throat of the involucre small, slightly lacerate: capsules medium (1.75^{mm} long by 2^{mm} wide), oval-oblong, glabrous, rounded at base, retuse at apex, angles very obtuse; styles deeply cleft: seeds of medium size (1.25^{mm} long), obovoid-oblong, rounded at apex, acutish at base, black but covered with a white coating, 4-angled, faces very slightly undulate or even; raphe conspicuous as a very dark line.

Dry, sandy, and gravelly soil, southern Canada, New York, and Pennsylvania.

Besides the central New York material collected by the writer, specimens have been examined as follows:

Ottawa, Ont. (*Macoun*, U. S. Herb.); Kingston, Ont. (*Fowler*, U. S. Herb.); Toronto, Ont. (*Weller*, Cornell Univ. Herb.); Danville, Quebec (*Berg*, Herb. Col. Coll.); Manitou Beach (*Britton*, Herb. Col. Coll.); Canandaigua Lake, N. Y. (*Britton*, Herb. Col. Coll.); Niagara county, N. Y. (*Townsend*, Herb. Cornell Univ.); Lake George, N. Y. (*Vasey*, Herb. Col. Coll.); Weehawken, N. J. (*Van Seckle*, U. S. Herb.); Lancaster county, Pa. (*Small*, Herb. Col. Coll.)

This species is abundant in central New York, growing preferably along railroad embankments, roadsides, and similar waste places. Although growing often in company with *E. maculata* and *E. nutans*, it is usually more abundant than either, and is conspicuous on account of its diffuse decumbent habit and light-green color. It becomes strictly erect when attacked by the æcidial stage of the fungus *Uromyces Euphorbiae*, and occasionally when growing among other herbs.

The following synopsis will show the relation of *E. hirsuta* to some of the other species with which it has been confounded:

A. Seeds rufous (with a white coating), small (0.82–1.00^{mm} long), one angle acute, the others mostly obtuse: capsule small (1.25^{mm} long), ovate, rather acutely angled, glabrous or hairy: flowers in lateral clusters: stems prostrate (or erect in *E. glyptosperma*).

Seeds strongly furrowed, angles usually crenate: stems and capsule glabrous, the latter acutely angled: appendages white. *E. glyptosperma*.
Seeds lightly furrowed: stems and capsule hairy.

Leaves elliptical (12–14^{mm} long): seeds nearly without furrows, granulate: involucre cleft down one side. - *E. humifusa* Engelm.

Leaves oblong-linear (9^{mm} or less): seeds transversely furrowed, slightly cellular-papillose: involucre not cleft; appendages usually pink.

E. maculata L.

B. Seeds black (with a white coating), larger (1.12–1.25^{mm} long): capsule larger (1.75–2.25^{mm} long), glabrous: flower clusters terminal: stems erect, ascending or decumbent.

Capsule ovate (2.25^{mm} long), rather sharply angled, rounded at summit: seeds oval, very obtusely angled (1.77^{mm} wide), covered with short and sharp irregular ridges: stems erect or ascending, stout, glabrous or nearly so (25–40^{cm} long): leaves 20–35^{mm} long, dark-green, usually with a central red spot - - - - *E. nutans* Lag.

Capsule very broadly oblong or broadly oval, smaller (1.75^{mm} long, 2^{mm} wide), retuse, very obtusely angled: seeds oblong, more acutely angled (0.67–0.70^{mm} wide) and with a few shallow furrows or nearly even: stems slender, diffusely much branched, decumbent, hirsute: leaves smaller (8–18^{mm} long), light-green, rarely with a central red spot.

E. hirsuta (Torr.)

— KARL MCKAY WIEGAND, *Cornell University*.

EXPLANATION OF PLATE III. — Fig. 1, *E. hirsuta*, plant natural size. Fig. 2, involucre. Fig. 3, capsule. Fig. 4, same in cross section, Fig. 5, seeds. Figs. 6 and 7, capsule of *E. nutans*. Fig. 8, seeds of the same.

CEDEMA IN ROOTS OF SALIX NIGRA.

MANY species of *Salix* when growing along streams or ponds will form masses of roots differing much from those growing in the soil. The roots arise, as a rule, from near the base of the trunk. They are long and straight and have but few branches. Their structure is somewhat modified because of their unusual environment. Around the central cylinder is a loose cortex of parenchymatous cells supplied with